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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,659	02/02/2007	Anthony McCormack	3700.P0412US	4367

23474 7590 04/28/2011  
FLYNN THIEL BOUTELL & TANIS, P.C.  
2026 RAMBLING ROAD  
KALAMAZOO, MI 49008-1631

EXAMINER
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FELTON, MICHAEL J

ART UNIT	PAPER NUMBER
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1747

MAIL DATE	DELIVERY MODE
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04/28/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,659	<b>Applicant(s)</b> MCCORMACK ET AL.	
	<b>Examiner</b> MICHAEL J. FELTON	<b>Art Unit</b> 1747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,27-32,34 and 38-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,27-32,34 and 38-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 3/25/2011 have been fully considered but they are not persuasive.
2. The applicant argues that unexpected results need only be shown in relation to the primary prior art reference. The examiner believes that this argument is moot. As indicated in the previous office action, there is no showing of unexpected results in the instant specification, and therefore, unexpected results cannot be persuasively argued in relation to the prior art.
3. The applicant's other arguments have been addressed in prior office actions.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims **1, 27-32, 34, and 38-48** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added

Art Unit: 1747

limitation "having an extended life" does not appear to have been described in the specification.

6. Claims **46-48** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added claims recite the limitation, "wherein the activated carbon has an activity of greater than 100 to 125% CTC". The range being claimed is not disclosed in the specification and is not present and cannot be derived from the data present in table 3.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims **1, 27-32, 34, and 38-48** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The term "extended" in claims 1, 32, and 44 is a relative term which renders the claim indefinite. The term "extended" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In the instant case, there indication of the duration of "extended life" that would meet the claim.

Art Unit: 1747

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims **1, 27-32, 34, and 38-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith II et al. (US 3,460,543) in view of Crooks et al. (US 20050066980) and Frund (US 5,714,126).

13. Regarding claims **1, 27-30, 32, 34, 38, 39, 42, and 43**, Keith II et al. disclose a cigarette with a cigarette filter containing 100-120 mg of an activated carbon absorbent with a particle size of around 50 mesh (0.297 mm; col. 6, 55-62) that is impregnated with 1-13% copper and 1-13% molybdenum (col. 2, 40-55; col. 4, 1-50) or other metals.

14. Keith II et al. do not disclose carbon tetrachloride activity of 90% or greater. However, Crooks et al. disclose a cigarette filter that includes activated carbon that is impregnated with metals and the activated carbon has a carbon tetrachloride activity of 60-150 (claim 16) and is between 8X16 and 30x70 mesh (claim 18). In addition, Frund

Art Unit: 1747

discloses using activated carbon with a carbon tetrachloride activity of at least 95 (col. 2, line 6).

15. It would have been obvious to one of ordinary skill in the art at the time of invention to use activated carbon with higher carbon tetrachloride activity (as taught by Crooks et al. or Frund) with the filter disclosed by Keith II et al. because the references are analogous art and teach using impregnated activated carbon in gas filters to remove harmful substances. In addition, one of ordinary skill would understand that activated carbon with a higher carbon tetrachloride activity would be able to absorb more unwanted compounds from smoke than activated carbon with a lower carbon tetrachloride activity.

16. Regarding claims **31, 44, and 45**, Keith II et al. do not disclose the claimed copper to molybdenum ratios (1.3 to 1 or 4 to 1) but do disclose amount of copper from 1-13 % and amounts of molybdenum from 1-13 % (col. 4, 1-11).

17. It would have been obvious to one of ordinary skill in the art at the time of invention to vary the amounts of the copper and molybdenum within the ranges disclosed by Keith II et al. in order to optimize the performance of the filter because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA).

18. Regarding claim **40**, Keith II et al. disclose that the adsorbent can also remove hydrogen sulfide (col. 3, 67-73).

19. Regarding claim **41**, Keith II et al. disclose that the filter is added to a cigarette with a wrapper and tobacco rod (see example 3).

Art Unit: 1747

20. Regarding claims **46-48**, as stated above, Keith II et al. teach copper from 1-13 % and amounts of molybdenum from 1-13 % and it would be obvious to optimize the ratio of the two metals and Crooks et al. teach activated carbon with carbon tetrachloride activities of 60-150.

### ***Conclusion***

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. FELTON whose telephone number is (571)272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

Art Unit: 1747

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Felton/  
Examiner, Art Unit 1791

/Christopher A. Fiorilla/  
Chris Fiorilla  
Supervisory Patent Examiner, Art Unit 1700